

CLAIMS:

1. A device for arresting the progress of a vehicle having wheels with rubber tires, the device being deployable on a road surface and comprising:
 - (a) at least one tire attaching member, (b) at least one elongated flexible
5 member disposed along the direction of said progress and adapted to wrap around said tires, said at least one tire attaching member being fixed to the proximal end of said at least one elongated flexible member with respect to the vehicle's motion, and c) an arresting means attached to said elongated flexible
10 member and adapted to interfere with the vehicle motion, whereby, upon passage of said vehicle over said device, said tire attaching member attaches said flexible member to at least one of said vehicle tires so that said flexible member wraps around said tire, and said arresting means interferes with the motion of the vehicle so as to arrest it.
2. The device according to Claim 1, wherein said tire attaching member is a
15 barb or spike adapted to pierce said tire and to resist being pulled out.
3. The device according to Claim 1, wherein said elongated flexible member is a generally flat strip of durable material.
4. The device according to Claim 1, wherein said elongated flexible member comprises a cable or chain.
- 20 5. The device according to Claim 1, wherein said device is foldable and portable.
6. The device according to Claim 2 or 3, having a plurality of elongated flexible members, wherein said arresting means is a rod disposed transversely to said flexible members and attached to the distal end of each flexible member
25 with respect to said vehicle's motion.
7. The device according to Claim 6, wherein said rod is deformable and capable of absorbing mechanical energy.
8. The device according to Claim 6, wherein said rod is a hollow pipe.

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9. The device according to Claim 6, wherein said rod is composed of a plurality of tubular elements, each one adapted for fixing one of said flexible members thereto, a cable passing through each tubular element, and two end fittings fixed to said cable so as to hold said tubular elements together.
- 5 10. The device according to Claim 9, wherein at least one of said two end fittings is fixed releasably to said cable so as to enable replacement of said tubular elements and said elongated elements, and/or adjustment of the width of said device.
11. The device according to Claim 4, wherein said tire attaching member is
10 an anchoring spike adapted to pierce said tire and to resist being pulled out so that strong pulling force would tear and/or strip the tire at least partially off its wheel rim.
12. The device according to Claim 11 wherein said arresting means is a rigid member disposed transversely to said cable or chain and attached to the distal
15 end of each cable or chain with respect to said vehicle's motion.
13. The device according to Claim 12 wherein said rigid member is a rod or beam.
14. The device according to Claim 12 wherein said rigid member is a flat housing accommodating said cables or chains and said anchoring spikes, and
20 having a sloping surface at its proximal and distal ends facilitating passing of said vehicle tires.
15. The device according to Claim 14 further comprising a movable cover allowing hiding said anchoring spikes so as to let a vehicle pass over said device without being arrested.
- 25 16. The device according to Claim 11, wherein said anchoring spike has at least one movable folded part which is adapted to unfold inside said tire after piercing it.
17. The device according to Claim 16, wherein said movable part is spring-loaded and held in folded position by a catch releasable by interaction with the
30 pierced tire.

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18. The device according to Claim 3, wherein said attaching member is a layer of sticky material applied to the upper surface of said strip.

19. The device according to Claim 3 wherein said arresting means is a slippery layer at the bottom surface of said strip.

5 20. The device according to Claim 19, wherein said slippery layer is a smooth and flexible steel net.

21. A device for arresting the progress of a vehicle having wheels with rubber tires, the device being deployable on a road surface and comprising a) a plurality of freely rotating cylinder or ball-shaped members; b) supporting means
10 adapted to hold said freely rotating members with axes of rotation substantially perpendicular to said vehicle motion and at predetermined distance from one another, said freely-rotating members being adapted to engage at least one of the vehicle tires and prevent its contact with the road surface, thereby arresting the vehicle.

15 22. The device according to Claim 21, wherein said plurality of freely rotating members comprise a series of adjacent rotary members of substantially equal diameter and a member of larger diameter disposed distally of said series.

23. The device according to Claim 22, further comprising a friction plate disposed distally of said series and carrying said member of larger diameter, said
20 plate being adapted to absorb at least part of the momentum of the arrested vehicle and/or to dissipate the associated mechanical energy by friction with the road surface.

24. The device according to Claim 22, further comprising two freely rotating members of medium diameter, one disposed proximal of said series and the other
25 disposed between said series and said member of larger diameter.

25. The device according to Claim 24, wherein said larger diameter is about 25-40% of the vehicle tire diameter, said medium diameter is about 10-15% of the vehicle tire diameter and the diameter of the members in said series is about 5% of the vehicle tire diameter.

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26. The device according to Claim 21, wherein said plurality of freely rotating members are of substantially equal diameter and said supporting means is a low bridge-like construction with ascending-descending slopes at the distal and proximal ends thereof adapted to accommodate the vehicle with all its tires
5 contacting only said rotating members.

27. The device according to Claim 26, comprising a plurality of supports disposed between said freely rotating members and adapted for lifting and lowering so that, when lifted, said supports may carry the vehicle tires and allow the vehicle to travel along and leave said device.

10 28. The device according to Claim 27, wherein said supports are mounted on one or more substantially horizontal plates disposed under said rotating members.

29. The device according to Claim 27, comprising one or more jacks adapted for lifting said supports.

30. The device according to Claim 29 wherein said one or more jacks are
15 one or more of the following: powered mechanical, hydraulic, pneumatic.

31. The device according to Claim 26 further comprising a means for towing said vehicle to or from said bridge-like construction.

32. The device according to Claim 26 in a remotely controlled roadblock arrangement comprising one or more of the following: signposts, road humps,
20 deployable road spikes, traffic lights, video cameras, voice communication means, lighting and personal identification means.

33. The device according to Claim 32, wherein at least one of said video cameras is disposed in said device so as to transmit picture of the vehicle underside.

25 34. A device for arresting the progress of a vehicle having wheels with rubber tires, the device being deployable on a road surface and comprising a) at least one tire piercing member disposed so as to meet said tire under angle suitable for piercing, and (b) means adapted to tear and strip said tires off their wheel rim after the piercing.

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35. The device according to Claim 34 comprising a plurality of said tire piercing members disposed in a rigid flat housing, said housing being open from above and accessible by said vehicle tires at least from the proximal end of said housing.
- 5 36. The device according to Claim 35 wherein said housing comprises at least two parts each containing a part of said tire piercing members, said housing parts being stackable so as to hide said tire piercing members.
37. The device according to Claim 36 wherein said parts of the housing are pivotally connected.
- 10 38. The device according to Claim 35 wherein said housing is adapted for moving and transporting.
39. The device according to Claim 35 further comprising a movable cover allowing hiding said tire piercing members so as to let a vehicle pass over said device without being arrested.
- 15 40. The device according to Claim 35 wherein said piercing members are anchoring spikes or blades.
41. The device according to Claim 40, wherein said anchoring spikes or blades have at least one movable folded part which is adapted to unfold inside said tire after piercing it.
- 20 42. The device according to Claim 41, wherein said movable part is spring-loaded and held in folded position by a catch releasable by interaction with the pierced tire.
43. The device according to Claim 35 wherein said piercing members are attached to said housing by flexible cables or chains allowing wrapping around
- 25 said tires after the piercing.
44. The device according to Claim 35 further comprising mounting means for attaching said piercing members thereto under said suitable angle.
45. The device according to Claim 34 comprising one tire piercing member having a means for releasing pressurized gases into said tire after piercing it so
- 30 that the tire is at least partially blown off its wheel rim.

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46. The device according to Claim 45 wherein said piercing member has a hollow piercing spike and said means include a hollow cartridge in fluid communication with said spike, containing volatile, reactive or explosive material capable of producing said pressurized gases upon activation.
- 5 47. The device according to Claim 46 wherein said cartridge is adapted for activation of said material by pressure applied to said cartridge by said vehicle tire.
48. The device according to Claim 46 comprising means for remote activation of said material by an operator.